

WHAT IS CLAIMED IS:

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1. An object collaboration apparatus comprising:
- 5 a plurality of objects, each object comprising a message receiving portion for monitoring and obtaining a message transmitted over a network, a reaction table for storing an action content which is a reaction to the message and wherein a reaction relationship of messages and actions defined in the reaction table drives the object collaboration apparatus, and an action executing portion for executing processing in accordance with the action content;
- 10 a requesting message sending portion for sending a requesting message in which an object that initiates a task requests processing of the task from other objects;
- a bidding portion for returning a bidding message if an action corresponding to the task that is requested in a requesting message is present in the reaction table;
- a bid awarding portion for determining, from among objects returning a bidding message, an object to which processing of the task is assigned; and
- 15 a bid awarding notifying portion for notifying the selected object of a bid awarding determination;
- wherein, if there are a plurality of competing objects that can provide an action in response to the task request by executing an action in response to the requested task when receiving a bid awarding notification, the selected object, of which task processing
- 20 is requested, is determined by a bidding system
2. The object collaboration apparatus according to Claim 1, wherein the bid awarding portion uses, as one bid determining parameter, a communication time that is necessary for communication between the task initiator object and the objects sending the
- 25 bidding message, and preferentially awards a bid to an object that has a short communication time between objects.
3. The object collaboration apparatus according to Claim 1, wherein the bid awarding portion uses, as one bid determining parameter, an empirical value of past processing performances for similar tasks of the objects sending a bidding message, and
- 30 preferentially awards a bid to an object that is expected to have a high processing

performance for the requested task.

4. The object collaboration apparatus according to Claim 1, wherein the bidding portion includes, in a bidding value, a bidding parameter that shows its own condition with respect to a task for which the bidding portion returns a bidding message, and the bid awarding portion determines a bid-winning object using the bidding value as one bid determining parameter.

5. The object collaboration apparatus according to Claim 4, wherein the bidding portion sends the bidding message using, as one bidding parameter, processing resources that can be assigned to a requested task processing, and the bid awarding portion selects an object having a bidding value indicative of large processing resources that can be assigned, and preferentially awards a bid to the selected object as the bid-winning object.

6. The object collaboration apparatus according to Claim 4, wherein the bidding portion sends the bidding message using, as one bidding parameter, an object load ratio showing a ratio of the already assigned processing resources to the bidding object's original processing resources, and the bid awarding portion selects, from the object load ratios in the bidding values, an object having a small load that is already assigned, and preferentially awards a bid to the selected object as the bid-winning object.

7. The object collaboration apparatus according to Claim 4, wherein the bidding portion sends the bidding message using, as one bidding parameter, a computer load ratio indicating a ratio of the already assigned processing resources to the processing resources of a computer that is executing the bidding object, and the bid awarding portion selects, from the computer load ratios in the bidding values, an object that is executed on a computer having a small load that is already assigned, and preferentially awards a bid to the selected object as the bid-winning object.

8. The object collaboration apparatus according to Claim 4, wherein the bidding portion sends the bidding message using, as one bidding parameter, a skillfulness at the task, which is based on resources available to the bidding object, and the bid awarding

portion selects an object that is good at processing the requested task, and preferentially awards a bid to the selected object as the bid-winning object.

9. The object collaboration apparatus according to Claim 1, wherein the task
5 initiator object has a bidding portion that generates a bidding message in response to the requesting message sent by the task initiator object, and the bid awarding portion processes the bid awarding selecting an object in accordance with bidding messages sent from both other objects and a bidding messages from the own terminal's bidding portion and selects the most appropriate object for the task processing from among all objects
10 including itself.

10. A computer-readable recording medium storing a program for realizing an
object collaboration apparatus, the program realizing
a plurality of objects, each object comprising steps of monitoring and obtaining
15 a message transmitted over a network; storing a reaction table for storing an action content which is a reaction to the message, wherein a reaction relationship of messages and actions defined in the reaction table drives the object collaboration apparatus; and executing processing in accordance with the action content;
a requesting message sending step for sending a requesting message in which an
20 object that initiates a task requests processing of the task from other objects;
a bidding step for returning a bidding message if an action corresponding to the task that is requested in a requesting message is present in the reaction table;
a bid awarding step for determining, from among objects returning a bidding message, an object to which processing of the task is assigned in the bidding step; and
25 a bid awarding notifying step for notifying the recipient object of a bid awarding determination in the bid awarding step;
wherein, if there are a plurality of competing objects that can provide an action in response to the task request by executing an action in response to the requested task when receiving a bid awarding notification, the bid-winning object, of which task
30 processing is requested, is determined by a bidding system.